

Driver Zone



WHY ELECTRIC?

In recent years, we have seen an increase in Hybrid cars together with the advent of Plug-in Hybrid cars and fully Battery Electric (EV) driven cars. A few years ago, the petrol and electric hybrid market was largely dominated by Toyota and Lexus with their respective Prius and Insight cars.

HOWEVER, DEMANDS FROM GOVERNMENTS AROUND THE WORLD HAVE DRIVEN THE CREATION OF A MUCH BIGGER RANGE OF 'GREEN' VEHICLES FOR REDUCED EMISSIONS AND REDUCED POLLUTION IN MANY CITIES.

We in the UK are lagging behind other nations in changing over to alternative fuelled vehicles, whether that is petrol/electric or diesel electric hybrids, or fully electric cars. The motoring press and other journalists are typically sceptical on electric cars particularly; they are of the opinion that nobody will buy them or can rely on them as their range is only around 100 miles and the network of charging stations is insufficient. They also view hybrids as slow eco-cars, eking out good economy figures at the expense of performance. Yet these reports are probably wrong on both counts.



Let's look at the practical elements first and consider if we could live with fully electric cars in our daily lives.

BMW, prior to launching their i3 electric car, carried out trials involving a large fleet of MINI's and BMW ActiveE vehicles, some diesel fuelled cars, but mostly 1,000 electrically powered cars. 160 electric BMW's formed part of the fleet for the 2012 Olympics in London. They allowed users in the trial the choice of which vehicle to use for their journeys giving them personal freedom to recharge the electric vehicles when it suited them.

What they discovered was that average journeys and typical daily mileage was far less than most people think.

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THE AVERAGE NUMBER OF MILES DRIVEN EACH DAY WAS JUST 29 MILES,

well within the typical 100 mile range of an electric car. Throughout the trial, the electric cars achieved less than that 100 mile figure, usually achieving an average of 93 miles per charge. But that didn't matter and those in the trial soon got comfortable enough that they didn't bother charging the cars every day, with most cars only being recharged less than 3 times per week. 9 out of 10 users found that charging the vehicle and using it suited their daily lives, and 96% at the end of the trial said they'd consider buying an electric car now. The longest single journey during the trials was by an electric car, not one of the diesel fuelled cars!

So, are electric cars the way forward?

No, not for everyone, at least not yet anyway. Many of us need to make the occasional journey that is much further than 100 miles and some, such as the busy "sales reps", are on the road all day, every day. So, no, for the high mileage driver using motorways on a daily basis, this isn't the solution. This perhaps explains the motoring journalist's negativity as these people, by the very nature of their jobs, spend more than the average amount of time on the road. For those who do just the occasional longer journey, however, some of the car makers have established schemes whereby they can borrow or hire (at discounted rates) a conventional petrol or diesel car for specific journeys. What's become clear already is that many households own two or more cars, so many just swap cars with their partners and use their other, conventionally fuelled, vehicle instead.

What of the lack of charging points?

Well, that's not proved such an issue either. There are problems undoubtedly, with many grumbles of thoughtless parking by other cars in EV-specific charging bays. And it would appear some EV owners themselves have left their car in a charging bay once it has recharged, thoughtlessly blocking it from other users. But the number of charging points continues to increase. The author has witnessed a local Garden Centre install no less than 8 charging points in its car park as part of a recent overhaul of facilities and even seen a charging point in use on the outside wall of a listed 17th century cottage.

In some inner city areas where off-street parking is not available it may be difficult to access your home electricity socket, therefore public charging points are the only option. In the age of laptops, tablets, smartphones, iPods and e-readers, the public seems to have no problem finding a 3-pin socket and many domestic energy providers are installing EV charging points at discounted rates or even free.

The length of time to charge them was also cited as a problem. Again this has not proved such an issue. BMW has already found most customers are reported to charge their vehicle overnight. Many charge the vehicles during the 8 hours or more that most of us spend in the workplace. Nissan is one manufacturer who listened to their customers and aligned the energy use and recharging requirements of their new e-NV200 van to work for the daily workload of a typical urban van.

What of the vehicles themselves?

What are they like? Milk floats? No, far from it! Whilst adding a large battery pack to a vehicle is significantly increasing the weight, maximum power is available from a standing start and most are impressed by the acceleration of an electric vehicle. Take a look at an online forum of EV owners and you'll find many proud and amusing anecdotes of how much faster their car accelerated than the conventional car next to them at the traffic lights.



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Tesla and BMW have done much too to dispel the myth of EV's and hybrids being slow and sluggish. The performance of the Model S, and the i3 and i8 pair, impress many, and at the time of writing VW's new e-Golf is receiving positive reviews regarding its driving prowess. Indeed, the car makers themselves are now thinking of the instant performance gains of adding an electric motor to a smaller engine with less carbon dioxide emissions, to attract customers by the performance aspects of a hybrid, rather than just its eco credentials.

What is probably holding back sales volume is the increased price of a hybrid, and the even higher cost of an electric vehicle. The initial concerns over the life of the battery and electric motors has largely ceased as Honda and Toyota can point to some of their first generation hybrids that are still on the road after many years and many miles. But we must accept the private customer at least will remain nervous until the car makers issue firm schemes to make replacement battery packs available at sensible prices for cars that are perhaps out of their 3 year warranty period and are being sold on to a second or third owner.

Norway is an interesting country to look at for electric vehicle use. The nation produces much of its electrical supply from renewable sources and its laws and penalties for pollution are somewhat strict. So Tesla is one car maker reaping the benefits of this with strong demand that ended with the Model S being the top selling car more than once this year. (Tesla, by the way, offers free recharges to their customers, for life!).

The reason is that electricity is cheap there, the taxes for pollution are high, petrol is expensive, and so an EV makes better financial sense; some claiming they'll offset the high purchase price of the Model S in a few years of reduced taxes and no petrol purchases.

The UK lags substantially behind Norway for renewable energy provision with no long-term government strategy such as our Nordic friends have had for many years, so our energy is not as cheap, and not as 'green'.

If you're considering a 'greener' car and the current 100 mile range of an EV doesn't suit you, (perhaps you're the busy sales rep), then the new generation of Plug-in Hybrid Electric Vehicles (PHEV) is a possible solution. Largely driven and fuelled by petrol or diesel, these can cope with the longer distances of intercity journeys of 100 miles plus. But these cars can offer a hidden trick up their sleeves too. Imagine you're driving from Southampton to the centre of London. You can confidently drive the 80 miles on the diesel or petrol engine, but as you start your journey, you press a button that reserves the electrical energy in the battery. As you enter the Congestion Zone in London's city centre, you press another button and the petrol engine stops and you drive on the electrical energy alone. In many cities, this means you can avoid paying the emissions taxes.

Alternatively, at weekends or evenings, when you're "just nipping up to the shops for a newspaper and a pint of milk", you can press another button and drive at least part of the journey, if not all of it, on the electrical charge alone, using no petrol or diesel.



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Plug-in Hybrid Electric Vehicles (PHEV) and fully electric vehicles (EV) continue to evolve. The car makers are well aware of the price penalty prospective purchasers face and are working hard to reduce that. Battery packs and electric motors, and even the computer controllers themselves, are all areas where research is underway to replace the expensive chemicals and rare metals with cheaper alternatives. The prices for these vehicles will decrease in relation to their conventional equivalents, and they'll need to if they're to attract greater numbers of buyers.

The £5,000 government incentive (Plug-in Car Grant) alone is not enough, the car makers need to make the price, and the long term ownership prospects, even more attractive. Whilst a company can calculate and fund a 3-year lease on an EV, a private consumer may need to buy and keep a car for a far longer period, and they need to know that they won't get an insurmountable repair bill that is beyond their means. Substantial work is being carried out to improve the range, regardless of whether we mostly do small journeys, as each new EV models seems to have a better range than before, assuming that the greater the range, the more customers they'll attract!

Electric and hybrid cars are still a relatively tiny number compared to conventional cars, particularly on British roads. But there are signs that as people try them, they are convincing friends and colleagues of the benefits; with the word of a friend carrying more weight than an advertising campaign. For the first half of 2014, UK registrations of new plug-in vehicles, either PHEV or EV, are up 155% over 2013, with pure EV sales up 132%. Still small numbers, but growing consistently and with car makers targeted with reducing the average emissions of the vehicles they produce, the push to convert more and more of us will continue.

If you're considering buying an electric car, or a hybrid, perhaps the first thing is to consider and review what journeys you really do make; what length, how often, to and from where.

This will probably guide you toward whether a fully electric car suits you, or you need the backup of a petrol engine in a hybrid car. Then look at the models available and speak to the sales person as to what options you have. And don't forget to enquire about deals for free or discounted charging point installation at your home or office with your energy provider.

The electric car has moved on a long way from the many early electrically driven vehicles marketed by some niche engineering companies. Now that all the big car makers are on-board, development is rapid and these vehicles are subject to the same safety standards as conventional cars. It has gone full circle really as way back in 1898 an electric car was designed by a young German engineer who went on to build many successful cars. His name? Ferdinand Porsche.

